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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,922	01/11/2007	Sergei Nikolaevich Maximovsky	7382-88934	3637

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EXAMINER	
ANGADI, MAKI A	
ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
06/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,922	MAXIMOVSKY ET AL.	
	Examiner	Art Unit	
	MAKI A. ANGADI	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1- 8 are rejected under 35 U.S.C. 102(b) as being anticipated over Inoue (US Patent No. 4,511,595).

As to claim 1, Inoue discloses a method which reads on the process of producing a metal or metallized image on a workpiece or substrate or sheet material such as silica board (3) (Fig.1) (col.1, lines 65-68 and col.8, lines 9-10); the method discloses the process of applying a solution containing a salt of the metal (col.4, lines 55-58 and col.8, lines 25-30) onto the sheet material and impregnating the sheet material with solution (col.4, lines 55-58 and col.8, lines 28-36) causing extraction of the metal from the solution at specified points of surface of the sheet material; by applying laser beam which inherently contains electromagnetic radiation (col.8, lines 37-53) to the deposited sheet metal deposited on the pretreated board (col.8, lines 23-25) at the specified points (col.8, lines 41-44); and forming the image from a combination of metallized points (col.8, lines 41-53).

As to claim 2, Inoue discloses a method that reads on the process of extraction of metal from the solution (col.8, lines 23-25) by focusing electromagnetic radiation pulses provided by a laser (12) (Fig.2) which are focused on the specified points by a laser beam (11) of the sheet material surface (3a) (col.5, lines 6-20).

As to claim 3, Inoue discloses that the electromagnetic radiation in the form of a thermal laser beam, cause laser radiation pulses to reduce, in the solution, metal ions of the metal at the specified points of the workpiece or sheet material (col.5, lines 6-20).

As to claim 4, Inoue discloses a method which reads on the process of controlling the duration of the electromagnetic radiation pulses in the form of laser pulses (col.5, lines 28-33) and size of the laser beam spot down to twice the wavelength of the beam for printing-type deposition wiring of tiny electronic device and high precision localized deposition (col.7, lines 18-22) so that one can avoid the burn of the sheet material.

As to claim 5, Inoue discloses a method of forming channels or intricate contours (Fig.11, col.10, lines 22-23) in the workpiece or sheet material under the action of laser radiation (electromagnetic radiation) by selectively activating the interface to enhance the chemcial-depositibility of the metal from the solution at their bottoms (Fig.2) (col.5, lines 8-12 and col.8, lines 23-28), and forming an image or pattern from a combination of metallized deepened into the body of the workpiece or sheet material (col.8, lines 46-60).

As to claim 6, Inoue discloses the process of preparing a solution in which several metal salts are present (col.8, lines 23-28), depositing simultaneously all the metals present in the solution at each of the specified point of the workpiece of sheet material (col.8, lines 38-49) and forming metal alloys or doped metals (col.9, lines 3-14) at specified points (col.10, lines 22-33, Fig.11).

As to claim 7, Inoue discloses the use electromagnetic radiation in the form of carbon-dioxide laser (claim 18), argon gas laser (claim 17) with pulses of different duration (col.5, lines 46-49).

As to claim 8, Inoue discloses an apparatus (col.5, lines 39-45) which reads on the process of applying a metallized image (Fig.1) on a sheet material or wokpiece or substrate (col.3, lines 66-67) comprising a means (6) positioned in front of the workpiece (3) for applying a metal onto the workpiece (col.4, lines 55-58) and a device or apparatus for fixing the metal to the sheet material at specified points (col.4, lines 59-66), apparatus being characterized in that the means for applying the metal onto the sheet material is made as a reservoir with solution (6) (Fig.1, col.4, line 6) containing a salt of the metal (col.8, lines 23-28) and as a fixture for transferring the solution from the reservoir to the sheet material (col.4, lines 55-58) and impregnating the sheet material with said solution (col.8, lines 30-36), and the means for fixing the metal to the sheet material or workpiece is made as a generator laser radiation pulses (12a) (Fig.7) and as a unit for focusing pulses of specified points at a surface of the workpiece

(3) to extract the metal at the points from the solution (col.7, lines 42-49) impregnated into the sheet material (claim 9).

Response to Arguments

2. Applicant's arguments filed 4/21/2009 have been fully considered but they are not persuasive.

With respect to claim 1, applicants' arguments on page 4 of the reply asserting that the prior art of Inoue (USP # 4,511,595) does not disclose the interaction of laser beam or any other scanning heat source interact with the substrate are not convincing. Inoue discloses an apparatus that is useful for producing a print-form circuit with intricate contours having one or more grooves on a substrate using laser pulses (11, Fig.1) (col.5, lines 39-54, claims 9 and 10).

Applicants' arguments on page of 5 of the reply asserting that the process employed by Inoue is not suitable to form an alloy at low temperatures are again not convincing. The apparatus disclosed in Fig.1 includes a control unit (27) which can be used to generate thermal beam to heat the depositing solution at higher temperatures (col.9, lines 3-14) suitable for alloy formation. The teachings of Inoue are commensurate with the scope of the applicants limitation disclosed in independent claims 1 and 8.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Garcia et al. (US Patent No. 3,835,780) discloses a process of printing by driography.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAKI A. ANGADI whose telephone number is (571)272-8213. The examiner can normally be reached on 8 AM to 4.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Maki A Angadi/
Examiner, Art Unit 1792

/Nadine G Norton/
Supervisory Patent Examiner, Art Unit 1792